Attorney Docket No. U 0113 N02B
Appl. No.: 10/626,281
Art Unit: 1626
Applicant's Request for Reconsideration After the Final Action of June 8, 2005

No Amendments to the Claims

No amendment to the claims is presented in the following listing of claims, which is provided for convenience. This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (Previously presented): A process for producing a color-stable, low-impurity tocopherol compound or mixture of tocopherol compounds comprising:
(a) providing a protecting group-substituted tocopherol compound;
(b) purifying the protecting group-substituted tocopherol compound by crystallizing it from a crystallization solvent and collecting the crystallized compound; and
(c) solvolyzing the purified compound to form free tocopherol.

Claim 2 (Original): The process according to claim 1, wherein the solvolyzing is carried out under an inert atmosphere.

Claim 3 (Original): The process according to claim 2, wherein the inert atmosphere comprises nitrogen.

Claim 4 ((Previously presented): The process according to claim 1, wherein the protecting group-substituted tocopherol compound is an ester.

Claim 5 (Original): The process according to claim 4, wherein the ester is selected from the group consisting of an acetate, a succinate, a phosphate, a phosphinate, a sulfonate and a carbonate.

Claim 6 (Previously presented): The process according to claim 4, wherein the ester is selected from the group consisting of an acetate and a succinate.

Claim 7 (Previously presented): The process according to claim 4, wherein the ester is an acetate.

Claim 8 (Original): The process according to claim 1, wherein the tocopherol compound comprises α-tocopherol.

Claim 9 (Original): The process according to claim 8, wherein the α-tocopherol is present in an amount of at least about 80% by weight based on the total tocopherol content.

Claim 10 (Original): The process according to claim 1, wherein the tocopherol compound comprises *d*-α-tocopherol.

Claim 11 (Original): The process according to claim 10, wherein the *d*-α-tocopherol is present in an amount of at least about 80% by weight based on the total tocopherol content.

Claim 12 (Previously presented): The process according to claim 1, wherein the tocopherol compound is a natural-source tocopherol.

Claim 13 (Previously presented):. The process according to claim 12, wherein the protecting group-substituted tocopherol compound is an ester.

Claim 14 (Previously presented): The process according to claim 13, wherein the ester is selected from the group consisting of an acetate and a succinate.

Claim 15 (Previously presented): The process according to claim 13, wherein the ester is an acetate.

Claim 16 (Canceled)

Claim 17 (Previously presented): The process according to claim 1, wherein collecting the crystallized compound is by filtration.

Claim 18 (Previously presented): The process according to claim 1, wherein the crystallization solvent comprises a lower alcohol.

Claim 19 (Previously presented): The process according to claim 1, wherein the crystallization solvent comprises isopropanol.

Claim 20 (Previously presented): The process according to claim 1, wherein crystallizing the compound is carried out at a temperature below room temperature and above the freezing point of the crystallization solvent.

Claim 21 (Previously presented): The process according to claim 1, wherein the crystallization solvent comprises isopropanol and crystallizing the compound is carried out at a temperature of from about 10°C to about -50°C.

Claim 22 (Previously presented): The process according to claim 1, further comprising re-mixing the crystallized compound with the crystallization solvent and repeating the crystallizing and the collecting at least once in sequential order.

Claim 23 (Previously presented): The process according to claim 1, wherein the protecting group-substituted tocopherol compound is an ester, and wherein solvolyzing the ester comprises

a reaction selected from the group consisting of acid-catalyzed hydrolysis and base-promoted hydrolysis.

Claim 24 (Previously presented): The process according to claim 1, wherein the protecting group-substituted tocopherol compound is an ester, and wherein solvolyzing the ester comprises base-promoted hydrolysis.

Claim 25 (Original): The process according to claim 24, wherein solvolyzing the ester comprises reacting the ester with an aqueous solution of a basic compound selected from the group consisting of alkali metal hydroxides, alkaline earth metal hydroxide, ammonium hydroxide, and metal hydrides.

Claim 26 (Original): The process according to claim 25, wherein the basic compound comprises an alkali metal hydroxide.

Claim 27 (Original): The process according to claim 25, wherein the basic compound comprises sodium hydroxide.

Claim 28 (Original): The process according to claim 24, wherein the hydrolysis is carried out in the presence of an alcohol solvent.

Claim 29 (Original): The process according to claim 28, wherein the alcohol solvent comprises isopropanol.

Claim 30 (Original): The process according to claim 24, wherein the hydrolysis is carried out in the presence of a reducing agent.

Claim 31 (Original): The process according to claim 30, wherein the reducing agent comprises sodium borohydride.

Claim 32 (Original): The process according to claim 15, wherein the hydrolysis is carried out under reflux conditions.

Claim 33 (Previously presented): A process for producing a color-stable, low-impurity tocopherol compound or mixture of tocopherol compounds, said process comprising:
(a) providing an acetate of a natural-source tocopherol compound;
(b) crystallizing the acetate of the tocopherol compound from a solvent comprising isopropanol and collecting a purified acetate of the tocopherol compound; and
(c) reacting the purified acetate with an aqueous solution of sodium hydroxide in isopropanol under a nitrogen atmosphere at reflux conditions to form free tocopherol, in the presence of a reducing agent comprising sodium borohydride.

Claim 34 (Original): A process for purifying a tocopherol, said process comprising:
(a) providing a starting material comprising a tocopherol compound;
(b) reacting the starting material with a protecting group to form a reaction mixture comprising a protecting group-substituted tocopherol compound;
(c) separating the protecting group-substituted tocopherol compound from the reaction mixture to form a purified protecting group-substituted tocopherol compound; and
(d) solvolyzing the purified compound to form a free tocopherol.

Claim 35 (Previously presented): A process for purifying a tocopherol, said process comprising:
(a) providing an ester of a tocopherol compound,
(b) reacting the ester with an aqueous solution of a basic compound in an alcohol solvent under an inert atmosphere to form free tocopherol, in the presence of a reducing agent.

Claim 36 (Original): A composition comprising a natural tocopherol compound, wherein the composition has a color-stability such that the composition has a Gardner color value of less than about 6 after 24 hours at a temperature of up to about 60°C.

Claim 37 (Original): A composition comprising a color-stable, natural tocopherol compound, wherein the composition has an *l*-tocopherol content less than about 0.75% and a total non-α-tocopherol content of less than about 2%.

Claim 38 (Original): A composition comprising a color-stable, natural tocopherol compound prepared by a process according to claim 1.

Claim 39 (Original): A composition comprising a color-stable, natural tocopherol compound prepared by a process according to claim 34.

Claim 40 (Original): A composition comprising a color-stable, natural tocopherol compound prepared by a process according to claim 35.